International Relations

Debt Games: Strategic Interaction in International Debt Rescheduling. By Vinod K. Aggarwal. Cambridge and New York: Cambridge University Press, 1996. 613p. $24.95.

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The cascade of financial distress that hit most developing countries after the tightening of U.S. monetary policy in 1981 has been a major threat to the international financial and trading order in the 1980s and early 1990s. To defuse the crisis, distressed debtors, overly exposed lenders, and international institutions have repeatedly engaged in often dramatic rounds of bargaining over the rescheduling of loans. What has been the result of these negotiations? In fact, there has been significant variation over time and across cases in the extent to which debtors have undertaken economic adjustment, banks have written down debts, and creditor governments and international organizations have intervened in the bargaining process. The central aim of *Debt Games* is to explain this variation through an impressive theoretical, comparative, and historical analysis spanning 170 years of debt rescheduling involving Latin American countries.

The book goes significantly beyond standard game-theoretic approaches to model international interactions. Most studies simply read actors' preferences off the bargaining outcome, or at best provide only casual empirical evidence for assigned payoffs. Instead, this work provides the reader with an operationalizable game-theoretic model based on a "situational theory" of bargaining. The approach consists of a formal method to derive payoffs for actors depending on their basic goals and their individual situations. Based on a set of coding rules, the analyst simply has to code the three variables that define an actor's situation—debt rescheduling resources, overall capabilities, and coalitional stability. The theory then allows one to derive a game structure for the bilateral interaction between lenders and debtors, as well as some informal insights on how the game might change in the future either through actors' efforts or through intervention by third parties. To solve the games for bargaining outcomes, the only formal skill that a potential user of the model needs is an understanding of the concept of Nash equilibrium to solve static normal form games.

The carefully designed theoretical framework pays off in the empirical work. The author examines 61 cases of debt rescheduling involving Argentina, Brazil, Mexico, and Peru over the last 170 years. He divides this long time period into four epochs defined by overall systemic factors and analyzes variation in outcomes across these different epochs. Overall, the model successfully predicts debt rescheduling outcomes in 85% of the cases. The book also has some interesting policy implications, including the fact that a limited set of structural conditions appears to determine the behavior of actors. Decision makers should therefore not be caught unprepared for the inevitable next crisis of debt rescheduling.

Such an ambitious study involves a series of modeling assumptions and coding rules that are open to challenge. Obviously, empirical coding of discrete variables remains a subjective enterprise, and readers may question some of the 61 cases included in the book. But Aggarwal has the basic point right: His predictions can be falsified, and the burden of proof is on his critics. There are, however, more serious potential questions worth considering. First, whereas the trend in international relations has been toward the analysis of the role of limited information, Aggarwal's games are complete information games. Lenders and debtors do not know what the other one will do, but they always know the structure of the game based on the actors' individual situations. Aggarwal argues that this assumption of complete information is a better approximation of actors' behavior than using incomplete information because, "as we shall see in the empirical cases, actors generally have a good sense of the kinds of actors they face in negotiations" (p. 57). He claims in the concluding chapter that his empirical work provides support for this assertion, but I have difficulty with the assumption that an actor can always be sure of his opponent's domestic coalitional stability, irrespective of the kind of domestic political system. Uncertainty about an opponent's domestic processes tends to be a major source of influence on outcomes of international negotiations. I do not see why this would not apply to debt rescheduling. The author does point to the trade-offs involved in relaxing the condition of complete information. Each actor could be facing eight or more possible types of opponents. To my knowledge no one has ever done something similar. Most of the existing work that tests limited information models either assumes two types of actors or a continuum of types (which would make empirical coding a nightmare).

Second, the book's treatment of change is questionable. In Aggarwal's model, new outcomes in future bargaining interactions may come from change in actors' individual situations owing to their dissatisfaction with bargaining outcomes or because of exogenous shocks. Dissatisfied actors may attempt to manipulate either their own or their opponent's individual situation and use power resources, norms and rules, or allies to achieve their goal. While this is an intriguing argument, the book does not provide any systematic way of applying this intuitive logic to the games beyond estimating a likelihood of change. There is no endogenous treatment of change through the repeated analysis of normal form games, only some indirect assessment through the concept of goodwill, which is discussed at length in a technical appendix.

Third, the modeling of strategic interaction does not include the behavior of third-party organizations or governments. Instead, the author follows a "simple utility maximizing decision rule under certainty" (p. 79) to explain the behavior of these actors. Although he agrees that this is a "significant simplification" (p. 79), Aggarwal gives no substantive justification for this choice.

In sum, the discussion on these three important modeling assumptions boils down to the trade-offs that any scholar has to make between theoretical elegance and empirical robustness. It should be obvious to anyone who has tried to apply game-theoretic models to in-depth empirical studies that Aggarwal needed to make modeling choices. The author is relatively unique in his openness in presenting an autocritique of his approach. The question for a reviewer, then, is to decide whether the choices he made yield a compelling analytical account of debt rescheduling. On this score, *Debt Games* is a tour de force. It is well balanced, with a nice mix of abstract concepts, real-world indicators, and empirical richness that goes beyond "illustrative" case studies. I have no doubt that one could make a different set of trade-offs between theoretical complexity and empirical applicability. But this impressive book should serve as a useful benchmark for years to come. Scholars and graduate students alike will find it to be a valuable source of modeling ideas that goes well beyond the examination of international debt rescheduling.